

VORTEX INDUCED VIBRATION RESISTANT SUBMERGED CYLINDER

ABSTRACT OF THE DISCLOSURE

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A mechanism to be applied to an exterior surface of a cylindrical structure for reduction of the effect of Vortex Induce Vibration (VIV) inthe cylindrical structure when immersed in flowing fluid. The mechanism is provided with a generally cylindrical column having a central axis, an interior surface corresponding in size and shape to the exterior surface of the cylindrical structure to which the mechanism is to be applied and an outer surface defining a wall thickness. A reduced wall thickness is formed into the outer surface in a pattern to produce a discontinuity that interrupts the lengthwise coherence of vortex shedding of moving fluid from the outer surface when the cylindrical column is attached to the exterior of the cylindrical structure in the flowing fluid. The effect of VIV on the cylindrical structure is effectively reduced.

A submergible cylindrical assembly for positioning in a flowing body of water and having enhanced resistance to vortex induced vibration is disclosed. The cylindrical assembly comprises a cylinder having an axis, an outer surface and a wall thickness. The cylinder has a pattern cut into the outer surface thereof that selectively reduces the wall thickness of the cylinder such that the formation of vortices is reduced, thereby reducing or eliminating the lift force on the cylinder and reducing or eliminating the vortex induced vibration that may weaken or damage the cylinder.